September 19, 2009

Programs of Study

A Design Framework

The Carl D. Perkins Career and Technical Education Improvement Act of 2006 (Perkins IV) calls for states to create secondary-to-postsecondary sequences of academic and career technical (CTE) coursework that lead students to attain a postsecondary degree, or industry-recognized certificate or credential.

Specifically, Perkins IV mandates that Programs of Study (POS), at a minimum

- Incorporate and align secondary and postsecondary education elements,
- Include academic and CTE content in a coordinated, non-duplicative progression of courses,
- Offer the opportunity, where appropriate, for secondary students to acquire postsecondary credits, and
- Lead to an industry-recognized credential or certificate at the postsecondary level, or an associate or baccalaureate degree.

While these four components establish the minimal expectations for POS design, 10 components have been identified that support the development and implementation of effective programs of study. Although all components are important, they are neither independent nor of equal priority: POS developers must identify the most pressing components for state or local adoption, taking into consideration their relative need within their educational context.

A *program of study* is a structured sequence of academic and career and technical education courses that lead to a postsecondary-level credential.

- Operational definition of a program of study

Program of Study Components:

1. Legislation and Policies

State legislation or administrative policies promote POS development and implementation among collaborating agencies.

Legislation and policies:

- Provide for state and/or local funding for POS.
- Establish formalized procedures for the design, implementation, or elimination of POS.
- Provide opportunities for any secondary student to participate in a POS.
- Require secondary students to develop an individual graduation or career plan.

2. Partnerships among Education, Business, and Other Community Stakeholders

Collaborative relationships that support POS design, implementation, and maintenance.

Effective partnerships should:

- Create written memorandum of understanding that elaborate the roles and responsibilities of partnership members.
- Conduct analyses of economic and workforce trends to identify statewide (or regional) POS to be created, expanded, or eliminated.
- Identify, validate, and update the technical and workforce readiness skills that should be taught within a POS.

3. Sustainable Leadership and Shared Planning

Collaborations among educators within and across secondary and postsecondary education sectors, to provide the necessary supports for POS development and administration.

Evidence should include:

- A joint statement from partnering organizations laying out a common vision and goals for POS.
- Key leaders advocating for funding, equipment, and other resources within the educational system, as well as with business/industry and other community stakeholders.
- Within institutions, sufficient planning time for teachers and faculty to develop curriculum and instructional strategies.
- Interagency efforts to support POS design, for example providing opportunities for high school teachers and college faculty to engage in collaborative planning.

4. Rigorous Academic and Technical Standards Aligned with Curriculum and Assessments

Curricula and content that integrate industry-recognized technical standards and relevant academic standards that all students are expected to know and be able to demonstrate on assessments that are aligned to the identified standards.

Well-developed POS:

- Incorporate state-recognized academic standards that are required of all students for graduation and industry-recognized technical standards that are valued in the workplace.
- Integrate academic and technical standards, curriculum, and assessments across all POS to provide a real-world context for learning.
- Employ industry-based technical skill assessments, where available and appropriate, or rely on state developed or approved assessments where industry-based exams do not exist.

5. Aligned Secondary and Postsecondary Education Elements

Seamless connections between secondary schools and postsecondary institutions that allow students to transition across sectors without duplicating classes or needing remedial coursework.

Well-developed POS:

- Offer a non-duplicative sequence of courses, beginning no later than 9th grade, which culminates in the award of a postsecondary credential, certificate, or degree.
- Ensure that standards, curriculum, instruction, and assessments are aligned horizontally and vertically.

- Moves from broad knowledge and skill standards in the lower grades (i.e., Career Cluster essential, foundation, and pathway levels), to increasingly more occupationally specific coursework.

6. Credit Transfer Agreements

Opportunities for secondary students to be awarded transcripted postsecondary credit, supported with formal agreements among secondary and postsecondary education systems.

Well-developed agreements:

- Provide a systematic, seamless process for students to earn college credit for postsecondary courses taken in high school, transfer high school credit to any two- and four-year institutions in the state, and transfer credit earned at a two-year college to any other two- or four-year institution in the state.
- Describe the expectation and requirements for, at a minimum, teacher and faculty qualifications, course prerequisites, postsecondary entry requirements, location of courses, tuition reimbursement, and credit transfer process.

7. Accountability and Evaluation Criteria

Process and outcome measures for the design and development of POS and strategies to collect appropriate student-level data that can be used to gauge program effectiveness and inform improvement efforts.

Well-designed systems should:

- Include the "*10 Essential Elements of A State Longitudinal Data System*" identified by the Data Quality Campaign.[1]
- Provide for administrative record matching of student education and employment data (i.e., Unemployment Insurance (UI) Wage Records).
- Yield valid and reliable data on key student outcomes (indicators) as referenced in Perkins and other relevant federal and state legislation.
- Provide timely data to evaluate and improve the effectiveness of the programs of study.

8. Guidance, Counseling and Advisement

Career guidance, academic counseling, and student advisement that support students in making informed decisions in planning their education and career pathways.

Comprehensive systems:

- Are based on state and/or local guidance and counseling standards and follow, to the extent practicable, OVAE's National Career Development Guidelines.[2]
- Offer information and tools to help students learn about postsecondary education and career options.
- Offer resources for students to identify their career interests and aptitudes and to select an appropriate POS, no later than in 9th grade.

[1] The 10 elements are: (1) statewide student identifier; (2) student-level enrollment data; (3) student-level test data; (4) information on untested students; (5) statewide teacher identifier with a teacher-student match; (6) student-level course completion (transcript) data; (7) student-level SAT, ACT, and Advanced Placement exam data; (8) student-level graduation and dropout data; (9) ability to match student-level P-12 and higher education data; and (10) a state data audit system.

[2] See http://cte.ed.gov/acrn/ncdg/ncdg_what.htm.

- Provide information and resources for parents to help their children prepare for college and careers.
- Offer Web-based resources and tools for obtaining student financial assistance.

9. Professional development

Support program administrators, teachers, and faculty in developing and implementing POS.

Effective professional development:

- Is sustained, intensive, and focused.
- Supports the alignment of curriculum from grade to grade (9-12) and from secondary to postsecondary education (vertical curriculum alignment).
- Supports the development of integrated academic and career and technical curriculum and instruction (horizontal curriculum alignment).
- Offers a forum for the development and implementation of innovative teaching and learning strategies (see #10 below).

10. Innovative Teaching and Learning Strategies

Application of new and creative instructional approaches that encourage academic and technical teachers and faculty to collaborate in the design of how content can be integrated and delivered to engage students.

Well-designed strategies:

- Are jointly led, to the greatest extent possible, by interdisciplinary teaching teams of academic and technical teachers or faculty.
- Employ work-based, project-based, and problem-based learning.
- Incorporate team-building, critical thinking, and problem-solving